

REMARKS

The Office Action of January 15, 2004 has been carefully considered. Reconsideration of this application, as amended, is respectfully requested. Claims 2-5, 7-9, 12-15, 17-19, and 21-26 are pending in this application. Of these, claims 2, 12, and 21 are independent claims.

This Amendment amends the specification to add a patent number that was not known at the time of filing. This patent number corresponds to the U.S. Application Serial No. 09/427,833 identified in the 1449 of the IDS mailed by Applicant November 28, 2001.

In addition, this Amendment amends claims 2, 4-5, 7-9, 12, 14-15, and 17-19, cancels claims 1, 6, 10, 11, 16, and 20, and adds claims 21-26, to more clearly set forth what is believed to be Applicant's invention. Support for these amendments is found in the Applicant's specification or claims, which includes: for claims 2 and 12 (see claims 1 and 11, and section 4 starting at paragraph [0052]); for claims 4 and 14 (see paragraph [0048]); for claims 5, 7-9, 15, and 17-19 (the amendments are believed not to diverge from originally claimed subject matter); for claims 21 and 22 (the amendments are believed to be within the scope of claims 12 and 15, respectively); and for claims 23 and 25 (see paragraphs [0073] and [0074]), 24 and 26 (see paragraphs [0065]-[0069]). Thus, no new matter is believed to be introduced by these amendments.

1. Response to Request For Drawing Corrections

Section 3 on page 2 of the Office Action request corrected drawings made in response to a Preliminary Amendment mailed by Applicant December 12, 2001 that requested approval for changes to Figure 7. The Office Action on page 3, section 3, approves the earlier requested proposed drawing correction (which added a previously omitted y-axis identifier "Row Values" to Figure 7).

In the drawings submitted herewith, Applicant submits replacement sheets of formal drawings which include the correction identified in the Preliminary Amendment mailed December 12, 2001.

2. Response to Objections and Rejection Under 35 USC 112

The Office Action on pages 3-4, sections 10-11, objects to claims 4, 6, and 14

for informalities. Further, the Office Action on page 4, sections 12-13, rejects claims 4-14 under 35 USC 112, second paragraph. The rejection alleges that there is no mention of the blue color channel. Applicant responds to the aforementioned objections and rejections by amending claims 4 and 14 to include the definition of the blue color channel by canceling claims 6 and 16. Accordingly, these objections and rejections are believed to be overcome.

3. Response to Rejection Under 35 USC 102

The Office Action on pages 4-6, sections 14-19, rejects claims 1-2 and 11-12 under 35 USC 102(b) as being anticipated by Adams, entitled "Interactions Between Color Plane Interpolation and other Image Processing Functions in Electronic Photography", published in SPIE, Vol. 2416, pp. 144-151, 1995 (hereinafter referred to as "Adams").

In response thereto, Applicant cancels claims 1 and 11 and amends claims 2 and 12 to incorporate the limitations of claims 1 and 11, respectively, to further clarify what Applicant believes to be the invention. In so doing, Applicant amends claims 2 and 12 to more clearly set forth that reconstruction of filter array images is performed using only sampled values (i.e., without using estimates of non-sampled values).

Generally, Adams describes methods for determining non-sampled values of color filtered arrays. As indicated in the Office Action, Adams on pages 146-147 describes a method in section 3.4 "Smooth hue transition interpolation" which involves a combination of interpolation and linear transformation. As described in section 3.4 on page 147, Adams assumes "that the luminance channel interpolation has already been performed so that all the green pixel values are defined" as specified in the definition of each of the equations 9-11 (i.e., see Figure 9 on page 146 of Adams which identifies the sampled values as B1, **G2**, B3, **G4**, R5, **G6**, B7, G8, and B9 and the equations 9-11 on page 147 which *requires estimates* of green non-sampled pixel values G1, G3, G5, G7, and G9 *before* the defined linear transformation may be computed).

In contrast, Applicant's claimed invention set forth in independent claims 2 and 12 recites the computation of coefficients of a linear transformation using one of the plurality of color channels of sampled values of pixels in the image without

interpolating values of other color channels of such pixels not recorded in the image. That is, Applicant's claimed invention advantageously does not require, as does Adams, the interpolation of color channels values that have no samples *before* estimating coefficients of a linear transformation that is used to estimate such color channels of non-sampled values.

Accordingly, Applicant respectfully submits that independent claims 2 and 12 as amended are patentably distinguishable over Adams. In addition, it should be noted that claim 21 contains very similar limitations to those discussed above with respect to claim 12, and therefore the argument presented above with regard to claim 12 applies equally to claim 21. Insofar as new dependent claims 22-26 are concerned, these claims depend from one of now presumably allowable claims 2, 12, and 21 and are also believed to be patentably distinguishable over Adams.

4. Response to Rejection Under 35 USC 103

The Office Action on pages 6-10, sections 20-36, rejects claims 3, 5-10, 13, and 15-20 under 35 USC 103(a) as being unpatentable over Adams, in view of Kirk, U.S. Patent No. 4,803,548 (hereinafter referred to as Kirk). In addition, the Office Action on pages 10-12, sections 38 and 32-33, rejects claims 4 and 14 under 35 USC 103(a) as being unpatentable over Adams, in view of Kirk and Weisstein, "CRC Concise Encyclopedia of Mathematics", pages 1045-1049, 1999 (hereinafter referred to as Weisstein).

In response thereto Applicant submits that neither Kirk (which discloses a method for enhancing a video image that assumes the existence of RGB data collocated in image space) nor Weisstein (which discloses the definition of "least squares fitting") taken singly or in combination with Adams neither disclose nor suggest Applicant's invention recited in independent claims 2 and 12 for the reasons discussed above. Accordingly insofar as claims 2-5, 7-9, 13-15, and 17-19 are concerned, these claims depend from one of now presumably allowable amended independent claims 2 or 12 and are therefore also believed to be in allowable condition.

5. Conclusion

In view of the foregoing remarks, reconsideration of this application and allowance thereof are earnestly solicited. In the event the Examiner considers a

personal contact advantageous to the disposition of this case, the Examiner is hereby requested to call Attorney for Applicant(s), Thomas Zell.

Respectfully submitted,

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